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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
HALVORSON, MARK	
ART UNIT	PAPER NUMBER
1642	

NOTIFICATION DATE	DELIVERY MODE
09/17/2008	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

PTO-PAT-Email@rfem.com

Office Action Summary	Application No.	Applicant(s)	
	10/564,823	STEIN ET AL.	
	Examiner	Art Unit	
	Mark Halvorson	1642	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *21 May 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-6,8-19,21-38 and 40-46* is/are pending in the application.

4a) Of the above claim(s) *1-9,14-19,21-38,40- 42 and 44-46* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *10-13* is/are rejected.

7)☒ Claim(s) *43* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claims 1-6, 8-19, 21-38 and 40-46 are pending.

Claims 1-9 14-19, 21-38, 40, and 42 have been withdrawn. Claim 41 is withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention. Claim 41, as amended, is now drawn to a composition comprising a nucleic acid sequence having the sequence given in SEQ ID NO:1. Claim 41, as amended, belongs in Group 1 of the Restriction Requirement and has been withdrawn from consideration. In addition new claims 44-46 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention. Claims 44-46 are drawn to a method for the diagnosis of metastatic potential of tumors in a patient. The elected invention, Group 4, is drawn to a method of diagnosing tumor disease. The invention of new claims 44-46 and the elected invention of Group 4 are directed to related processes. The related inventions are distinct if the (1) the inventions as claimed are either not capable of use together or can have a materially different design, mode of operation, function, or effect; (2) the inventions do not overlap in scope, i.e., are mutually exclusive; and (3) the inventions as claimed are not obvious variants. See MPEP § 806.05(j). In the instant case, the methods as claimed have a materially different design, mode of operation function or effect. Furthermore, the inventions as claimed do not encompass overlapping subject matter and there is nothing of record to show them to be obvious variants.

Claims 10-13 and 43 are under examination.

Objections to Specification withdrawn

The objections to the specification are withdrawn in view of Applicant's arguments and the amendments to the Specification.

- 35 USC § 112 2nd paragraph rejection withdrawn

The rejection of claim 12for being indefinite is withdrawn in view of the amendments to claim 12.

35 USC § 112 1st paragraph rejection maintained

The rejection of claims 10-13 for failing to comply with the enablement requirement is maintained.

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 10-13 were rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for a method for the diagnosis of colon cancer, wherein said colon cancer is metastasizing, comprising the step of determining the expression of 7a5/Prognostin in a biological sample from a pathologic tissue and comparison of said expression with the expression of 7a5/Prognostin in a healthy tissue, does not reasonably provide enablement for a method for the diagnosis of tumour diseases, wherein said tumour disease is metastasizing, comprising the step of determining the expression of 7a5/Prognostin in a biological sample from a pathologic tissue and comparison of said expression with the expression of 7a5/Prognostin in a healthy tissue. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make or use the invention commensurate in scope with these claims.

Factors to be considered in determining whether a disclosure meets the enablement requirement of 35 USC 1 12, first paragraph, have been described by the court in In re Wands, 8 USPQ2d 1400 (CA FC 1988).

Wands states on page 1404,

> "Factors to be considered in determining whether a disclosure would require undue experimentation have been summarized by the board in Ex parte Forman. They include (1) the quantity of experimentation necessary, (2) the amount of direction or guidance presented, (3) the presence or absence of working examples, (4) the nature of the invention, (5) the state of the prior art, (6) the relative skill of those in the art, (7) the predictability or unpredictability of the art, and (8) the breadth of the claims."

The claims are drawn to a method for the diagnosis of tumour diseases, comprising the step of determining the expression of 7a5/Prognostin in a biological sample from a pathologic tissue or bodily fluids and comparison of said expression with the expression of 7a5/Prognostin in a healthy tissue or bodily fluid.

The specification discloses that the expression of 7a5/Prognostin in primary colon tumors correlates with the development of metastasis. (Fig 2). The specification further discloses that the expression of 7a5/Prognostin in primary colon tumours was predictive of metastasis free survival (page 28 4th paragraph to page 29, 1st paragraph). However, in the manuscript figure submitted by Applicants in the May 21, 2008 Reply there does not appear to be any significant difference in the expression of Prognostin in primary colorectal carcinoma cells and metastatic colorectal cancer cells. (Supplemental Figure 1). The specification does not disclose that the expression of 7a5/Prognostin was elevated in any other cancer other than colon cancer nor was the expression of 7a5/Prognostin predictive of metastatic spread in any other cancer other than colon cancer. In addition the specification does not disclose the expression of 7a5/Prognostin in bodily fluids.

One cannot extrapolate the teaching of the specification to the scope of the claims because the specification does not provide examples and guidance for diagnosing any other cancer than colon cancer.

Applicants argue that the present application claims the comparison of 7a5lPrognostin between pathologic and healthy tissue samples. This comparison may be performed between samples of any tissue. Also, the overexpression of 7aSlPrognostin may be used to identify malignant tissue that has metastasized. The origin of those metastases may not necessarily be the colon, especially since tumors often de-differentiate as they progress. Applicants also argue that they have detected 7a5lprognostin in 25 primary mammary carcinoma/breast cancers. In addition Applicants argue that any metastatic cells capable of taking root in distant organs, such as liver or lung, must share traits that enable survival at that site.

Applicants arguments have been considered but are not persuasive. Applicants have not demonstrated that any metastasizing tumours other than metastasizing

colorectal carcinomas have elevated expression of Prognostin. The state of the art is one of the factors involved in determining whether there it would require undue experimentation for one skilled in the art to practice the invention as broadly claimed. Based on the disclosure of the instant application it could be inferred that Prognostin is a novel target for further research to determine whether the peptide is overexpressed in other cancers besides colorectal cancer. MPEP 2164.04 [R-1], citing Genentech v. Wellcome Foundation, 29 F. 3d 1115, 1563-31, USPQ2d 1161, 1167-68 (Fed. Cir. 1994), states that "Nascent technology, however, must be enabled with a specific and useful teaching.' The law requires an enabling disclosure for nascent technology because a person of ordinary skill in the art has little or no knowledge independent from the patentee's instruction. Thus, the public's end of the bargain struck by the patent system is a full enabling disclosure of the claimed technology."
Furthermore, MPEP 2164.08(b) discloses that "

> The presence of inoperative embodiments within the scope of a claim does not necessarily render a claim nonenabled. The standard is whether a skilled person could determine which embodiments that were conceived, but not yet made, would be inoperative or operative with expenditure of no more effort than is normally required in the art. Atlas Powder Co. v. E.I. du Pont de Nemours & Co., 750 F.2d 1569, 1577, 224 USPQ 409, 414 (Fed. Cir. 1984) (prophetic examples do not make the disclosure nonenabling). Although, typically, inoperative embodiments are excluded by language in a claim (e.g., preamble), the scope of the claim may still not be enabled where undue experimentation is involved in determining those embodiments that are operable. A disclosure of a large number of operable embodiments and the identification of a single inoperative embodiment did not render a claim broader than the enabled scope because undue experimentation was not involved in determining those embodiments that were operable. In re Angstadt, 537 F.2d 498, 502-503, 190 USPQ 214, 218 (CCPA 1976). However, claims reading on significant numbers of inoperative embodiments would render claims nonenabled when the specification does not clearly identify the operative embodiments and undue experimentation is involved in determining those that are operative. Atlas Powder Co. v. E.I. duPont de Nemours & Co., 750 F.2d 1569, 1577, 224 USPQ 409, 414 (Fed. Cir. 1984); In re Cook, 439 F.2d 730, 735, 169 USPQ 298, 302 (CCPA 1971).

Applicants have not demonstrated that Progestin is overexpressed in any other cancer other than colorectal cancer. Thus, it is not known which cancer, if any, may be

diagnosed by determining the expression of Prognostin. There is no direction and the specification does not clearly identify any criteria by which to determine which cancers may be diagnosed by examining the expression of Prognostin. It is unknown if any of the embodiments are operative. Applicants have only demonstrated that the Prognostin is overexpressed in colorectal cancer.

Applicants submission of data indicating that Prognostin is overexpressed in breast cancer tissue compared to normal breast tissue would support a method for diagnosing colorectal and breast cancer but not for a method of diagnosing e all tumour types.

Given the disclosure of the specification and teaching in the art, one of skill in the art could not predictably determine that the overexpression of 7a5/Prognostin would be predictive of any tumour disease other than colorectal cancer.

Therefore, in view of the breadth of the claims, lack of guidance in the specification, the absence of working examples, and the state of the art, it would require undue experimentation for one skilled in the art to practice the invention as broadly claimed.

Summary

Claims 10-13 stand rejected.

Claim 43 is objected to for being dependent on a rejected claim.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mark Halvorson, PhD whose telephone number is (571) 272-6539. The examiner can normally be reached on Monday through Friday from 8:30am to 5 pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Larry Helms, can be reached at (571) 272-0832. The fax phone number for this Art Unit is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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